CLAIMS

What is claimed is:

1. A semiconductor package, comprising:

a lead frame having a first side and a second side, and formed with a die pad and a plurality of leads surrounding the die pad, wherein the leads are each defined into an inner lead, an outer lead and a middle portion positioned between the inner lead and the outer lead, and each of the middle portions extends outwardly at sides thereof to form protrusions;

an encapsulant for encapsulating the lead frame with the outer leads being exposed, wherein a cavity is formed in the encapsulant for exposing the die pad and the inner leads on the first side of the lead frame, allowing a semiconductor chip and bonding wires to be received in the cavity;

a semiconductor chip mounted in the cavity on the die pad of the first side of the lead frame;

a plurality of bonding wires formed in the cavity for electrically connecting the semiconductor chip to the inner leads of the lead frame; and

a lid adhered onto the encapsulant for covering an opening of the cavity.

2. The semiconductor package of claim 1, wherein the middle portions of the leads are arranged in a manner that spacing between the adjacent middle portions is 0.10 mm, or equal to or smaller than 0.15mm.

3. The semiconductor package of claim 1, further comprising a first tape adhered to the second side of the lead frame.

4. The semiconductor package of claim 3, further comprising a second tape adhered to the first side of the lead frame in a manner free of interference with arrangement of the

bonding wires.

5. A method for fabricating a semiconductor package, comprising the steps of:

providing a lead frame having a first side and a second side, wherein the lead frame is formed with a die pad and a plurality of leads surrounding the die pad, and the leads are each defined into an inner lead, an outer lead and a middle portion positioned between the inner lead and the outer lead, with each of the middle portions extending outwardly at sides thereof to form protrusions;

forming an encapsulant to encapsulate the lead frame with the outer leads being exposed, wherein a cavity is formed in the encapsulant for exposing the die pad and the inner leads on the first side of the lead frame, allowing a semiconductor chip and bonding wires to be received in the cavity;

mounting a semiconductor chip in the cavity on the die pad of the first side of the lead frame;

forming a plurality of bonding wires in the cavity to electrically connect the semiconductor chip to the inner leads of the lead frame; and

adhering a lid onto the encapsulant to cover an opening of the cavity.

6. The method of claim 5, wherein the middle portions of the leads are arranged in a manner that spacing between the adjacent middle portions is 0.10 mm, or equal to or smaller than 0.15mm.

7. The method of claim 5, further comprising a step of adhering a first tape to the second side of the lead frame prior to the step of forming the encapsulant.

8. The method of claim 7, further comprising a step of adhering a second tape to the first side of the lead frame in a manner free of interference with arrangement of the bonding wires prior to the step of forming the encapsulant.